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Fuel/Oil Storage and Delivery for Farmers and Cooperatives

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COOPEREATIVE SERVICES
TECHNICAL ASSISTANCE

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Preface

This report was prepared in response to a request made in December 2004 by the National Council of Farmer Cooperatives (NCFC). NCFC asked Cooperative Services (CS) to survey both farmers and cooperatives to assess U.S. agriculture's fuel/oil storage and delivery system to determine the level of awareness and potential impact with regard to the Environmental Protection Agency's (EPA) 2002 Spill Prevention, Control, and Countermeasures (SPCC) regulations.

Two questionnaires to study this issue were developed with the assistance of a coalition of agricultural associations. One questionnaire was used for farmers and one for agricultural cooperatives. This report analyzes the responses of over 1,700 farmers and 400 cooperatives to the aforementioned questionnaires.

Contents

Executive Summary

Over the course of several months two questionnaires were developed to assess U.S. agriculture's fuel/oil storage and delivery system. Questionnaires were sent to 1,089 agricultural cooperatives and 3,850 farmers. CHS Inc. also made the same questionnaires available to farmers and cooperatives at their annual meeting and on their web site.

Farmer questionnaire summary:

- 1,712 farmers responded to the questionnaire.
- Less than half of the respondents were aware of EPA's SPCC regulations.
- The average respondent farmed slightly over 2,000 acres.
- Farms were made up of 10,185 parcels, with a range of 1 to 100 parcels.
- Average aggregated above ground storage capacity was 5,550 gallons.
- Over 74 percent of the respondents had storage of less than 5,000 gallons, farms with less than 1,000 acres averaged less than 2,500 gallons while those over 1,000 acres averaged almost 8,000 gallons.
- Half of the respondents had storage in one location, the other half had over 4,100 satellite storage locations that on average were 4.1 miles from the main site.
- Over 99 percent of the farmers had not experienced a fuel/oil spill in excess of 1,320 gallons.
- Cost of compliance to the SPCC rule was estimated to be $12,831 for an average tank size of slightly over 6,700 gallons.

Farmer cooperative questionnaire summary:

- 387 of 1,089 cooperatives responded to the questionnaire.
- Almost 95 percent of the respondent cooperatives were aware of EPA's SPCC regulations.
- The 387 cooperatives had over 41 million gallons of fuel/oil storage, or an average 120 thousand gallons.
- The cooperatives leased or rented storage tanks to farmers 31 percent of the time.
- Farms that cooperatives delivered to had aggregated storage in excess of 1,320 gallons 38 percent of the time. Only 8 percent had berms to contain spills.
- Cooperatives had asked to see a farm SPCC plan for about 4 percent of the farms they deliver to.
- The cooperatives had 894 fuel/oil delivery trucks with a capacity in excess of 660 gallons. Bermed or catch basin parking for 16 percent of these trucks was available when they were not in use.

The SPCC rule will have a substantial cost of compliance for the nation's farmers. A total compliance cost of almost $4.5 billion is projected. There is very little evidence of fuel/oil spills by farmers.

Introduction

In December 2004 the National Council of Farmer Cooperatives (NCFC) requested the assistance of Cooperative Services (CS) to survey both farmers and cooperatives to assess U.S. agriculture's fuel/oil storage and delivery system. An agricultural coalition assisted CS with the development of two questionnaires--one to survey farmers and the other to survey agricultural cooperatives. NCFC wanted the study to be conducted to determine the level of awareness and potential impact with regard to the Environmental Protection Agency's (EPA) 2002 Spill Prevention, Control, and Countermeasures (SPCC) regulations.

The July 2002 EPA SPCC final rule caught many in the agricultural community by surprise. An ag coalition was formed to review the rule and find remedies. The ag coalition is comprised of these members:

American Farm Bureau Federation
Agriculture Retailers Association
American Corn Growers Association
CF Industries
CHS Inc.

GROWMARK, Inc.
MFA Oil
Montana Council of Cooperatives
National Grape Cooperative Association
National Association of Wheat Growers

National Cotton Council
National Council of Farmer Cooperatives
National Farmers Union
National Grange
Nebraska Cooperative Council

North American Equipment Dealers Association
Oklahoma Agricultural Cooperative Council
Southern States Cooperative
South Dakota Association of Cooperatives
Soybean Producers of America

The Fertilizer Institute
USA Rice Federation
Wheat World

Highlights of EPA's 2002 SPCC final rule are as follows (for a more complete description of EPA's Revised SPCC Rule, see Appendix I, page 14):

- Exempts completely buried storage tanks subject to all of the technical requirements of the UST regulations (40 CFR Parts 280 or 281);
- Exempts portions of certain facilities or any facility used exclusively for wastewater treatment;
- Establishes a de minimis container size of 55 gallons;
- Establishes an aboveground storage capacity threshold of greater than 1,320 gallons and removes the 660 gallon threshold;
- Revises the trigger for submitting information on spills at SPCC regulated facilities to EPA. Facilities are now required to submit information after having 2 discharges (over 42 gallons) in any 12-month period or a single discharge of more than 1,000 gallons;
- Allows deviations from most rule provisions (with the exception of secondary containment requirements) when equivalent environmental protection is provided;
- Provides for a flexible plan format, but requires a cross-reference showing that all regulatory requirements are met; and
- Clarifies rule applicability to the storage and operational use of oil.

Questionnaire Design

Over the course of several months, two questionnaires were developed to assess U.S. agriculture's fuel/oil storage and delivery system. NCFC, CHS, Inc., and the agricultural coalition were consulted on the questions. The questionnaires are shown in appendices IV and V (pages 21 and 22, respectively). To enhance response rates both questionnaires were administered on a single page. Some of the questions on both questionnaires were similar so that they could be compared.

A mailing list of farmer addresses was obtained from USDA's Farm Service Agency. The list included rice, corn, soybeans, wheat, and cotton farmers. From this list, a random sample of 3,850 farmers was chosen to be surveyed.

For statistical significance at the 95% level of confidence for any single question on the farmer questionnaire, responses from at least 383 farmers were found to be needed in a population of over 100,000 farmers. A 10 percent response rate of farmers for the fuel/oil storage questionnaires was expected. However, the actual rate of farmer response was 22.3 percent (858 of 3,850 farmers surveyed with several hundred additional questionnaires arriving after the mid-March cut off date). Appendix II (page 18) shows the farmer respondents by region. There were few differences found by region, but the regional information is included in this report to show respondent dispersion.

CHS Inc. also made both questionnaires available on their web site. CHS Inc. introduced the questionnaires at their annual meeting in December 2004 and encouraged both local cooperatives and farmers to fill out questionnaires at their annual meeting or to download the questionnaire from the CHS Inc. web site. The cooperative questionnaire was mailed to 1,089 cooperatives that had retail sales of petroleum products.

There is considerable overlap between the CHS Inc. cooperatives contacted at their annual meeting and the 1,089 cooperatives surveyed by mail. Because of the overlap, the cover letter to the cooperatives asked the cooperatives to ignore the questionnaire if they had previously responded.

Farmer Questionnaire

The farmer response table is divided into a summary section of all respondents on the left followed by four fuel-storage size classes on the right (table 1, page 4).

The first question sought to determine what numbers of farmers were aware of the rule prior to the survey. About one-half of the farmers surveyed were aware of EPA's SPCC regulations.

Table 1—Farmer Questionnaire—All Respondents and by Above-Ground Storage Increments

Farmer Survey Summary--All		All Respondents		Less than 1,320 storage		1,320 to 5,000 storage		5,001 to 12,000 storage		12,001 to 29,999 storage	
		Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
1. Are you aware of the EPA's SPCC	YES	754	44.04%	216	46.96%	294	46.08%	86	42.16%	63	36.84%
	NO	958	55.96%	244	53.04%	344	53.92%	118	57.84%	108	63.16%
2. Your farm size	LESS THAN 200 ACRES	158	9.84%	82	17.52%	15	2.32%	6	2.88%	4	2.26%
	201 TO 500 ACRES	241	15.02%	162	34.62%	56	8.67%	8	3.85%	3	1.69%
	501 TO 1,000 ACRES	308	19.19%	118	25.21%	157	24.30%	22	10.58%	5	2.82%
	OVER 1,000 ACRES	898	55.95%	106	22.65%	418	64.71%	172	82.69%	165	93.22%
	Total Parcels	*Average*	*Max*	*Min*	*Total Parcels*	*Average*	*Max*	*Total Parcels*	*Average*	*Max*	*Total Parcels*	*Average*	*Max*	*Total Parcels*	*Average*	*Max*
3. Number of farm (parcels) totaling	10,185	7	100	0	1,889	5	80	4,428	8	60	1,648	9	42	1,806	11	100
LESS THAN 200 ACRES	219	1	20	1	124	2	20	40	3	8	29	5	12	13	3	5
201 TO 500 ACRES	762	3	80	1	562	3	80	162	3	13	23	3	6	1	0	1
501 TO 1,000 ACRES	1,570	5	43	1	566	5	43	848	5	35	115	5	11	20	4	7
OVER 1,000 ACRES	7,634	9	100	0	637	6	35	3,378	8	60	1,481	9	42	1,772	11	100
			Number	*Percent*		*Number*	*Percent*		*Number*	*Percent*		*Number*	*Percent*		*Number*	*Percent*
4. Do you have above ground storage	YES		1,535	88.12%		467	100.00%		645	100.00%		208	100.00%		177	100.00%
	NO		207	11.88%		0	0.00%		0	0.00%		0	0.00%		0	0.00%
5. Do you own the above ground storage	YES		1,427	92.12%		425	91.59%		606	93.81%		189	90.87%		168	95.45%
	NO		122	7.88%		39	8.41%		40	6.19%		19	9.13%		8	4.55%
			Gallons	*Ave. Gal.*		*Gallons*	*Ave. Gal.*		*Gallons*	*Ave. Gal.*		*Gallons*	*Ave. Gal.*		*Gallons*	*Ave. Gal.*
6. a. Above ground storage capacity (gallons and average)			8,490,902	5,550		388,619	832		1,691,753	2,619		1,816,885	8,735		3,143,435	17,760
			Number	*% of responses*		*Number*	*% of responses*		*Number*	*% of responses*		*Number*	*% of responses*		*Number*	*% of responses*	
6. b. Your aggregated storage is:	LESS THAN 1,320 GALLONS	467	30.52%	832	467	100.00%	832	0	0.00%	0	0	0.00%	0	0	0.00%	0
	1,320 TO 5,000 GALLONS	646	42.22%	2,619	0	0.00%	0	646	100.00%	2,619	0	0.00%	0	0	0.00%	0
	5,001 TO 12,000 GALLONS	208	13.59%	8,735	0	0.00%	0	0	0.00%	0	208	100.00%	8,735	0	0.00%	0
	12,001 TO 29,999 GALLONS	177	11.57%	17,760	0	0.00%	0	0	0.00%	0	0	0.00%	0	177	100.00%	17,760
	30,000 OR MORE GALLONS	32	2.09%	45,319	0	0.00%	0	0	0.00%	0	0	0.00%	0	0	0.00%	0
			Number	*Percent*		*Number*	*Percent*		*Number*	*Percent*		*Number*	*Percent*		*Number*	*Percent*
7. Your storage capacity that is	STATIONARY	7,622,763	89.97%		340,275	86.01%		1,475,093	86.95%		1,612,670	89.64%		2,837,065	90.62%	
	PORTABLE	849,509	10.03%		55,344	13.99%		221,390	13.05%		186,455	10.36%		293,770	9.38%	
			Average			*Average*			*Average*			*Average*			*Average*	
8. Your acres in crop production	ACRES	2,374,435	2,105		75,791	689		899,413	1,462		546,572	2,774		688,368	4,002	
			Percent			*Percent*			*Percent*			*Percent*			*Percent*	
9. a. Are your storage tanks in one location	YES	810	53.05%		331	71.65%		304	47.35%		105	50.48%		63	35.59%	
	NO	717	46.95%		131	28.35%		338	52.65%		103	49.52%		114	64.41%	
			Ave. Miles			*Ave. Miles*			*Ave. Miles*			*Ave. Miles*			*Ave. Miles*	
9. b. Your other storage tank sites	NUMBER	4,174	4.1		334	2.0		2,489	3.4		462	5.1		559	5.7	
			Number	*Miles*		*Number*	*Miles*		*Number*	*Miles*		*Number*	*Miles*		*Number*	*Miles*
10. Distance to your other storage tank sites	SITE 1	630	3.4		107	2.1		307	3.0		98	5.2		95	3.8	
	SITE 2	346	4.1		36	1.4		158	3.6		63	4.9		70	5.2	
	SITE 3	177	5.2		5	2.8		71	4.5		36	4.0		50	7.5	
	SITE 4	101	7.1		2	3.6		26	4.3		25	6.5		35	9.3	
			Number	*Percent*		*Number*	*Percent*		*Number*	*Percent*		*Number*	*Percent*		*Number*	*Percent*
11. Have you had a fuel spill in excess of 1,320 gallons	YES	6	0.39%		0	0.00%		5	0.77%		1	0.48%		0	0.00%	
	NO	1,545	99.61%		464	100.00%		641	99.23%		207	99.52%		175	100.00%	
12. a. Estimate of your cost to comply with SPCC	YES	38	2.46%		4	0.87%		14	2.17%		4	1.94%		12	6.82%	
	NO	1,507	97.54%		458	99.13%		632	97.83%		202	98.06%		164	93.18%	
		Average	*Responses*		*Average*[1]	*Responses*		*Average*	*Responses*		*Average*	*Responses*		*Average*	*Responses*	
12. b. Total cost of compliance	COST	12,831	32		2,100	3		6,660	10		12,500	3		17,217	12	
12. c. Tank size affected for compliance	GALLONS	6,737	32		4,267	3		1,879	10		7,333	3		9,583	12	

Surveys were returned from 38 retired or non-active farmers--their responses are not in this table. Surveys were returned from 210 farmers with no above ground storage--only their response to knowledge of SPCC rule were presented in this table.

[1] One respondent with aggregated storage of less than 1,320 gallons had a compliance estimate for an 11,000 gallon tank which made the average higher than the expected value of less than 1,320 gallons.

Table 1—Farmer Questionnaire—All Respondents and by Above-Ground Storage Increments (continued)

Farmer Survey Summary--All	All Respondents				30,000 or more storage			12,000 or less storage			12,001 or more storage		
			Number	Percent		Number	Percent		Number	Percent		Number	Percent
1. Are you aware of the EPA's SPCC	YES		754	44.04%		13	41.94%		596	45.78%		76	37.62%
	NO		958	55.96%		18	58.06%		706	54.22%		126	62.38%
2. Your farm size	LESS THAN 200 ACRES		158	9.84%		0	0.00%		103	7.79%		4	1.91%
	201 TO 500 ACRES		241	15.02%		1	3.13%		226	17.10%		4	1.91%
	501 TO 1,000 ACRES		308	19.19%		0	0.00%		297	22.47%		5	2.39%
	OVER 1,000 ACRES		898	55.95%		31	96.88%		696	52.65%		196	93.78%
	Total Parcels	Average	Max	Min	Total Parcels	Average	Max	Total Parcels	Average	Max	Total Parcels	Average	Max
3. Number of farm (parcels) totaling	10,185	7	100	0	346	12	76	7,965	7	80	2,152	11	100
LESS THAN 200 ACRES	219	1	20	1	0	0	0	193	2	20	13	3	5
201 TO 500 ACRES	762	3	80	1	5	5	5	747	3	80	6	2	5
501 TO 1,000 ACRES	1,570	5	43	1	0	0	0	1,529	5	43	20	4	7
OVER 1,000 ACRES	7,634	9	100	0	341	11	76	5,496	8	60	2,113	11	100
			Number	Percent		Number	Percent		Number	Percent		Number	Percent
4. Do you have above ground storage	YES		1,535	88.12%		32	100.00%		1,320	100.00%		209	100.00%
	NO		207	11.88%		0	0.00%		0	0.00%		0	0.00%
5. Do you own the above ground storage	YES		1,427	92.12%		30	93.75%		1,220	92.56%		198	95.19%
	NO		122	7.88%		2	6.25%		98	7.44%		10	4.81%
			Gallons	Ave. Gal.		Gallons	Ave. Gal.		Gallons	Ave. Gal.		Gallons	Ave. Gal.
6. a. Above ground storage capacity (gallons and average)			8,490,902	5,550		1,450,210	45,319		3,897,257	2,950		4,593,645	21,979
		Number	% of respons	0	Number	% of responses		Number	% of responses		Number	% of responses	
6. b. Your aggregated storage is:	LESS THAN 1,320 GALLONS	467	30.52%	832	0	0.00%	0	467	35.35%	832	0	0.00%	0
	1,320 TO 5,000 GALLONS	646	42.22%	2,619	0	0.00%	0	646	48.90%	2,619	0	0.00%	0
	5,001 TO 12,000 GALLONS	208	13.59%	8,735	0	0.00%	0	208	15.75%	8,735	0	0.00%	0
	12,001 TO 29,999 GALLONS	177	11.57%	17,760	0	0.00%	0	0	0.00%	0	177	84.69%	17,760
	30,000 OR MORE GALLONS	32	2.09%	45,319	32	100.00%	45,319	0	0.00%	0	32	15.31%	45,319
			Number	Percent		Number	Percent		Number	Percent		Number	Percent
7. Your storage capacity that is	STATIONARY		7,622,763	89.97%		1,357,660	93.62%		3,428,038	88.10%		4,194,725	91.57%
	PORTABLE		849,509	10.03%		92,550	6.38%		463,189	11.90%		386,320	8.43%
				Average			Average			Average			Average
8. Your acres in crop production	ACRES		2,374,435	2,105		160,003	5,000		1,521,776	1,651		848,371	4,159
				Percent			Percent			Percent			Percent
9. a. Are your storage tanks in one location	YES		810	53.05%		3	9.38%		740	56.40%		66	31.58%
	NO		717	46.95%		29	90.63%		572	43.60%		143	68.42%
				Ave. Miles			Ave. Miles			Ave. Miles			Ave. Miles
9. b. Your other storage tank sites	NUMBER		4,174	4.1		330	5.8		3,285	3.6		889	5.7
			Number	Miles		Number	Miles		Number	Miles		Number	Miles
10. Distance to your other storage tank sites	SITE 1		630	3.4		23	4.3		512	3.2		118	3.9
	SITE 2		346	4.1		19	6.4		257	3.6		89	5.4
	SITE 3		177	5.2		15	5.0		112	4.2		65	6.9
	SITE 4		101	7.1		13	8.4		53	5.3		48	9.0
			Number	Percent		Number	Percent		Number	Percent		Number	Percent
11. Have you had a fuel spill in excess of 1,320 gallons	YES		6	0.39%		0	0.00%		6	0.46%		0	0.00%
	NO		1,545	99.61%		32	100.00%		1,312	99.54%		207	100.00%
12. a. Estimate of your cost to comply with SPCC	YES		38	2.46%		4	12.50%		22	1.67%		16	7.69%
	NO		1,507	97.54%		28	87.50%		1,292	98.33%		192	92.31%
			Average	Responses		Average	Responses		Average	Responses		Average	Responses
12. b. Total cost of compliance	COST		12,831	32		23,400	4		6,900	16		18,763	16
12. c. Tank size affected for compliance	GALLONS		6,737	32		11,750	4		3,349	16		10,125	16

Unfortunately, because nearly 600 respondents in the first survey round were briefed about the rule immediately previous to the questionnaire being administered, no conclusion can be made from that group regarding their prior knowledge of the rule.

The farmer questionnaires administered by CHS Inc. and those administered by USDA show a large difference in the response to question 1, prior knowledge to EPA's SPCC rule (table 2). The CHS Inc. administered questionnaires found farmers equally aware and unaware of the rule while the USDA questionnaires found 61 percent of the farmers had no knowledge of the rule.

Table 2—Initial farmer questionnaires administered by CHS Inc. and USDA

		CHS Inc.		USDA	
1. Farmers aware of the EPA's SPCC	YES	422	49.41%	332	38.69%
	NO	432	50.59%	526	61.31%

Some breakout by farm acreage could perhaps provide insights about small versus large business impacts. The second question was asked to determine what size farm was represented and to base some judgments on the impacts of the ruling on small versus large farms. The average respondent farmed slightly over 2,000 acres.

USDA reports average farm size as slightly less than 500 acres.[1] However, only 18 percent of respondents to this questionnaire had farms of less than 500 acres. About 52 percent of all respondents (898 of 1,712) owned/operated a farm of greater than 1,000 acres. Of those 898, 31 (3 percent) possessed fuel storage capacity in excess of 30,000 gallons and 699 (78 percent) held less than 12,000 gallons of storage capacity.

The 1,712 respondents held farms made up of over 10,185 parcels. On average, a respondent farmed 7 parcels. Farms holding greater than 30,000 gallons in fuel storage spanned an average 9 land parcels. Farms holding 12,000 gallons or less spanned 7 parcels. Farms with over 1,000 acres averaged 8 parcels. The intent of the fourth question was to show the number of farmers, and what proportion of those surveyed, could be impacted by the above ground storage tank rule. Almost 90 percent of the farmers had above ground storage tanks

The fifth question was asked to determine if there is a bias regarding either the owner or the renter being affected by the rule if directed to comply – owner versus renter. Over 92 percent owned their own storage tanks. Almost 8 percent noted that they rented or leased their above ground storage tanks. A few respondents commented that their rented or leased tanks held oil.

[1] USDA, Agricultural Statistics 2004.

Question 6 was asked to determine what number/percentage of farms would meet the 1,320 trigger. Over 73 percent of all respondent farms have aggregated fuel storage in excess of 1,320 gallons. Total above ground fuel storage capacity is almost 7.6 million gallons among all respondents who farm over 2.3 million acres. On average, aggregated fuel storage capacity above ground was 5,550 gallons. Farms with an excess of 30,000 gallons averaged 45,319 gallons. Farms with 12,000 gallons or less averaged 2,950 gallons in storage capacity.

Given that there are various thresholds being suggested by industries, breakouts by 0-1320; 1321-5,000; 5001-12,000; 12001-30,000; and over 30,000 are provided to determine how many might be impacted at each threshold level. Over 64 percent (1,100) of respondents have aggregated above ground fuel storage of 5,000 gallons or less. Of that proportion, over 39 percent (467 of 1,100) hold storage of less than 1,320 gallons.

Almost 90 percent of the aggregated storage is in stationary tanks. Portable storage capacity therefore, averaged about 10 percent of total capacity (556 gallons) among all respondents, 6.4 percent (2,892 gallons) among farms with 30,000 gallons or more of storage, and 11.9 percent (351 gallons) among farms with 12,000 gallons or less in storage.

Question 8 was asked to determine what relationship if any exists between farm size and fuel/oil storage. However, this question provides only a general reference to that relationship. For example, it cannot speak to the various types of farm operations, i.e., grain, oilseed, cotton, rice, peanuts, etc.

Respondents with fuel storage capacity of less than 1,320 gallons held a combined acreage of 75,924 acres in production (3.2 percent of 2.37 million acres) or an average 684 acres per farm. Respondents with fuel storage capacity of between 1,320 and 5,000 gallons held 38 percent of the production acreage (899,413 acres), an average of 1,462 acres per farm.

Fifty-three percent of the respondents had all storage tanks in one location. On average, respondents with more than one fuel storage location had 6 satellite storage locations with each satellite site about 4.1 miles from the main storage site. Respondents were asked to provide the distance from the main storage to each satellite storage location for up to 4 sites. The distance to site 1 from the main location averaged 3.4 miles, to site 2, 4.1 miles; site 3, 5.2 miles; and site 4, 7.1 miles (table 3, page 8).

Table 3—Farms with other storage sites and distances, all respondents and storage volume

Farmer Survey Summary	All Respondents		Less than 1,320 storage		1,320 to 5,000 storage		5,001 to 12,000 storage	
	Number	*Miles*	*Number*	*Miles*	*Number*	*Miles*	*Number*	*Miles*
Other storage sites and distance	4,174	4.1	337	2.0	2,489	3.4	462	5.1
Site 1 (number and distance)	630	3.4	108	2.1	307	3.0	98	5.2
Site 2 (number and distance)	346	4.1	36	1.4	158	3.6	63	4.9
Site 3 (number and distance)	177	5.2	5	2.8	71	4.5	36	4.0
Site 4 (number and distance)	101	7.1	2	3.6	26	4.3	25	6.5

	12,000 or less storage		12,001 or more storage		12,001 to 29,999 storage		30,000 or more storage	
	Number	*Miles*	*Number*	*Miles*	*Number*	*Miles*	*Number*	*Miles*
Other storage sites and distance	3,285	3.6	889	5.7	559	5.7	330	5.8
Site 1 (number and distance)	512	3.2	118	3.9	95	3.8	23	4.3
Site 2 (number and distance)	257	3.6	89	5.4	70	5.2	19	6.4
Site 3 (number and distance)	112	4.2	65	6.9	50	7.5	15	5.0
Site 4 (number and distance)	53	5.3	48	9.0	35	9.3	13	8.4

Farms with aggregated storage of 1,320 or less gallons had over 330 additional storage sites, located 2 miles from each other on average. The storage sites increased in distance of separation as aggregated storage increased, going from 3.6 miles for those with less than 12,000 gallons to 5.8 miles for those with aggregated storage of 30,000 or more.

Less than 1 percent of farmers surveyed (6 of 1,712) experienced a fuel/oil spill in excess of 1,320 gallons. Another way of stating it, over 99 percent of the farmers surveyed did **not** have a fuel/oil spill.[2]

Less than 2.5 percent of the respondents asked a professional engineer the cost of compliance with the SPCC rule and fewer had an estimate of the cost of compliance. Only 38 respondents discussed the SPCC rule with a professional engineer. Of the 38, 32 provided an estimate of the cost of compliance of the rule. For an average tank size of a slightly more than 6,700 gallons, the cost of compliance of with the SPCC rule was estimated to exceed $12,800.

Farmer Cooperative Questionnaire

Agricultural cooperatives are farmer-owned business organizations that market farm products for and supply farm inputs to farmers (such as fuel and oil). Cooperative Services, Rural Development primarily works with farmer cooperatives. The cooperative questionnaire was mailed to 1,089 cooperatives. It was determined that a survey for cooperatives should be constructed and issued to see (1) the extent of compliance for cooperatives, (2) what impact the new rule might have, and (3) to ask some questions similar to the farmer survey to validate their responses.

The cooperative summary tables are also organized by storage capacities (table 4, page 9). Almost 95 percent of the respondent cooperatives were aware of the SPCC rule. Unfortunately,

[2] The survey did not solicit information that would indicate a widespread spill or proximity to water shorelines.

Table 4—Farmer Cooperative Questionnaire All Respondents and by Above-Ground Storage Increments

Farmer Cooperative Survey Summary--All			All Respondents		Less than 12,001 storage		12,001 to 50,000 storage		50,001 to 100,000 storage		More than 100,000 storage	
			Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
1. Is your cooperative aware of EPA's SPCC		YES	366	94.57%	64	91.43%	39	97.50%	80	97.56%	143	99.31%
		NO	21	5.43%	6	8.57%	1	2.50%	2	2.44%	1	0.69%
2. Size of delivery truck your cooperative uses	LESS THAN 2,000 GALLONS		65	14.22%	7	9.59%	10	22.73%	24	25.53%	21	11.48%
	2001 TO 5,000 GALLONS		269	58.86%	34	46.58%	20	45.45%	62	65.96%	138	75.41%
	5,000 + GALLONS		47	10.28%	7	9.59%	3	6.82%	7	7.45%	23	12.57%
	OTHER		76	16.63%	25	34.25%	11	25.00%	1	1.06%	1	0.55%
3. a. Does your cooperative have above ground storage		YES	340	91.64%	69	100.00%	41	100.00%	78	100.00%	145	100.00%
		NO	31	8.36%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
3. b. Your above ground storage (total and average)		GALLONS	41,304,146	120,070	185,634	2,615	1,446,480	34,440	6,743,279	81,244	32,928,753	222,492
4. Percent of farms delivered to with rented or leased tanks		PERCENT		31.27%		34.00%		44.20%		29.09%		31.13%
5. Number of farms your cooperative delivered to:		NUMBER	107,352		8,772		4,325		19,969		71,075	
6. Farms delivered to with aggregated storage in excess of 1,320 gallons		NUMBER	40,453	37.68%	1,035	11.80%	1,229	28.42%	8,617	43.15%	28,494	40.09%
7. Farms with 1,320 gallon storage with berms for containment		NUMBER	3,316	8.20%	284	27.44%	130	10.58%	766	8.89%	2,063	7.24%
8. Farms delivered to with two or more separate storage sites		NUMBER	29,789	27.75%	1,650	18.81%	804	18.59%	6,598	33.04%	20,364	28.65%
9. Distance between separate storage sites		MILES	3.3		3.0		1.7		3.3		3.8	
10. a. Has your cooperative asked to see farmer SPCC plan		YES	15	4.36%	3	5.56%	0	0.00%	5	6.17%	7	4.79%
		NO	329	95.64%	51	94.44%	34	100.00%	76	93.83%	139	95.21%
10. b. If YES, how many SPCC plans have you seen		THIS YEAR	71	0.18%	5	0.48%	0	0.00%	52	0.60%	14	0.05%
		LAST 5 YEARS	112	0.28%	48	4.64%	0	0.00%	50	0.58%	14	0.05%
11. Your cooperative delivery trucks with more than 660 gallon capacity		NUMBER	894		86		60		147		572	
12. Bermed or catch basin area for delivery trucks with > 660 gallons		NUMBER	143	16.00%	21	24.42%	8	13.33%	29	19.73%	81	14.16%

Surveys were returned from 32 cooperatives that have no above ground storage--their responses are included in this table.

[1] For question 10, only one cooperative answered that they had seen plans this year or in the last five years with aggregated storage from 50,001 to 100,000 gallons. Those 52 and 50 responses are a large proportion of all responses.

nearly 100 respondents were briefed about the rule just prior to the questionnaire being administered at an annual cooperative meeting. No conclusions regarding prior knowledge therefore, can be made from that group.

The cooperatives delivered fuel/oil to almost 108 thousand farms, mainly in 2 to 5 thousand gallon delivery trucks. Trucks holding less than 2,000 gallons and over 5,000 gallons were also used.

About 92 percent of the cooperatives had above ground storage tanks, with a total storage capacity of over 41 million gallons, or 120 thousand gallons on average. Many of the cooperatives (31 percent) delivered to farms that leased or rented fuel/oil storage tanks from the cooperative. In comments given on the questionnaire, the tanks that farmers leased or rented from the cooperative were often oil storage tanks.

Question 6 attempts to determine the number of farms to which a co-op would deliver fuel/oil that are sufficiently large enough to trigger the oil spill requirements. Cooperatives delivered fuel/oil to farms that held aggregated storage tanks in excess of 1,320 gallons about 38 percent of the time. Of these farms, 8 percent had berms in place to contain spills.

Question 8 looks at how many have 1,320 gallons in at least one location. Results from this question may also provide data to validate similar results from the farmer questionnaire. These farms had two or more separate storage sites about 30 percent of the time, with the separate sites about 3.3 miles from the main site on average — a result consistent with that taken from the questionnaire administered to farmers.

Respondent cooperatives asked to see the SPCC plan of about 5 percent of the farms that they delivered fuel/oil to. For this year alone, the cooperatives saw less than one percent of the SPCC plans of farms with aggregated storage in excess of 1,320 gallons and less than one percent of the same farms over the last five years.

Cooperatives responded that they had 894 fuel/oil delivery trucks with a capacity in excess of 660 gallons. These trucks were parked in an area with a berm or catch basin when not in use about 16 percent of the time.

Analysis

USDA was asked by the National Council of Farmer Cooperatives (as a representative of the agricultural coalition) to conduct a survey of farmers and cooperatives to assess the impact of EPA's SPCC rule. While two questionnaires with limited questions may not fully assess all aspects of the fuel/oil storage situation of both farmers and cooperatives, some observations can be drawn from these surveys.

Farmers had very few fuel/oil spills in excess of 1,320 gallons. Six of 1,712 respondents (0.36 of 1 percent) indicated a spill exceeding the 1,320-gallon threshold. Such a low number of spills do not seem to justify 1,320-gallon trigger.

If the SPCC is trying to minimize the burden of farmer compliance, several inferences can be drawn from these questionnaires that could further reduce the farmer's burden.

1) There is very little evidence of fuel/oil spills by farmers.
2) The maximum aggregated storage of 1,320 gallons is insufficiently small.

Estimating the Cost of Compliance

To estimate the total burden of compliance with SPCC rule on U.S. farmers, information from the farmer survey was expanded to 1.36 million farms.[3] Table 5 accounts for the scope of any impacts in a rule change across farms and farm parcels in the U.S. A total of 1.36 million farms and 4.3 million farm parcels would be affected nationally.

Table 5 – Number of farms by farm size and projected number of farm parcels

	Farms	Farm parcels
Farms with:	*Number*	
Less than 200 acres	783,597	1,543,449
201 to 500 acres	297,247	842,435
501 to 1,000 acres	134,118	677,344
Over 1,000 acres	147,646	1,233,835
Total	**1,362,608**	**4,297,063**

Farmer survey results were expanded to provide national estimates of impacts with respect to farm size, storage volumes, and compliance costs. Compliance with the rule is expected to cost $4.5 billion (table 6, page 12). The cost of compliance for the SPCC rule is presented by aggregated storage size increments because there is no direct relationship between farm size and storage.

The burden will be greatest on small farms because 89 percent of U.S. farms are less than 1,000 acres in size Compliance cost for farms with 1,320 to 5,000 gallons aggregated storage is projected to be $2.2 billion; 12,001 to 29,999, $960 million; and 30,000 or more, $130 million. The total projected compliance cost is sufficiently prohibitive to warrant re-analysis for meeting the requirements of the Small Business Regulation Enforcement Fairness Act (SBREFA).

[3] The 2002 Census of Agriculture lists 1,362,608 farms that have harvested cropland. The 1.3 million farms were used instead of 2.1 million farms also listed by USDA to eliminate numerous farms that are hobby or non-commercial farms.

Table 6—Total compliance cost, aggregated tank totals, and per tank cost of compliance

For aggregated storage of:	Total cost of compliance	Aggregated tanks	Aggregated tank cost
	Millions of dollars	*Gallons*	*Dollars*
Less than 1,320 gallons	-	875,265	-
1,320 to 5,000 gallons	2,195.42	329,643	6,660
5,001 to 12,000 gallons	1,202.84	96,227	12,500
12,001 to 29,999 gallons	963	55,934	17,217
30,000 or more gallons	129.6	5,538	23,400
Total	**4,490.86**	**487,343**	**9,215**
1,320 to 12,000 gallons	3,398.26	425,870	7,980
12,001 or more gallons	1,092.60	61,473	17,774
Total	**4,490.86**	**487,343**	**9,215**

Most of the respondents have other storage sites that are separate from their main sites (table 7). On average there are 2.7 other sites at a distance of 4.1 miles. The number of additional sites and distance to these sties will increase the cost of compliance to the SPCC rule.

Table 7 – Average storage capacity, number of other storage sites, and distance to other storage sites, by farm size

Farms with:	Storage capacity	Number of other storage sites	Distance to other storage sites
	Gallons	*Number*	*Miles*
Less than 200 acres	1,790	1.3	1.4
201 to 500 acres	1,752	0.8	2.0
501 to 1,000 acres	2,436	1.3	2.6
Over 1,000 acres	7,997	3.9	4.9
Overall average	**5,550**	**2.7**	**4.1**

Methods to Reduce the Compliance Burden

The data can be analyzed by three different methods to reduce the compliance burden. The methods are: 1) by size of farms, 2) by average size of aggregated storage tanks, and 3) by least burden to farmers.

By size of farm, 51 percent of farms have less than 2,500 gallons of aggregated storage and most of these can be described as small farms. None of these farms would have a compliance burden should the trigger be raised to 2,500 gallons.

The average size of aggregated storage was found to be 5,550 gallons. If the compliance trigger was raised to 5,550 gallons, the burden of compliance would be lifted from 74 percent of all farms and the cost of compliance would drop from $4.49 to $2.29 billion.

By least burden to farmers, 86 percent of farms have aggregated storage tanks of 12,000 gallons or less. Compliance burden would drop from $4.49 billion to $1.09 billion.

Finally, if the compliance trigger were raised to 12,000 gallons, small cooperatives could also fall under this threshold. Seventy cooperatives or 20 percent of the respondents have 12,000 gallons or less in above ground storage capacity. Raising the compliance trigger to 12,000 gallons would also greatly reduce the compliance on farmer cooperatives.

Summary

The single objective determinant of farm compliance – the 1,320 gallons aggregated storage trigger is not supported by the survey data. Compliance at this level not only ignores the physical layouts of farm fuel storage but it also imposes a broad and extreme impact on the majority of farms. Nearly 70% of all farms would have to comply, at an average aggregated tank cost of $9,215 and a total compliance cost of $4.5 billion.

Other important factors should also be considered in the determination. In particular, factors involving the dispersion of fuel storage tanks across several non-contiguous fields (parcels) are critical to a representative consideration of the farmers use and storage of fuel/oil. Other factors related to fuel storage tank dispersal involve – how many sites, how much fuel is located at each site, and distances between sites. Nearly half (47%) of all farmers surveyed had multiple fuel storage sites on their farms – an average 6 sites per farm. Among farms that had more than one storage site, each satellite site was an average distance of 4.1 miles from the main site.

The dispersion of storage sites at such distances not only challenges the idea of a low aggregated compliance threshold but also serves to highlight the impracticality of forcing farms to fence, monitor, provide secondary containment and comply with other requirements because of the physical nature of farm fuel storage.

Unless the aggregated storage compliance threshold (trigger) is changed to 30,000 or more gallons, the cost will be at least $4.5 billion. If the aggregated storage threshold is increased to 30,000 gallons or more, compliance cost will still be $129.6 million.

Bibliography

Agricultural Statistics 2004, National Agricultural Statistics Service, United States Department of Agriculture, 2004

2002 Census of Agriculture, National Agricultural Statistics Service, United States Department of Agriculture, 2004

Appendix I

SPCC Rulemaking

The discussions in the July 17, 2002 EPA final rule (at 67 Federal Register47041) on oil spill prevention, control and countermeasures (SPCC), in addition to making some minor changes to earlier SPCC regulations, maintain all of the requirements from earlier regulations and require most farmers with over 1.320 gallons of petroleum products, vegetable oils and/or animal fats to have to comply.

Those requirements, updated over the past 30 years, are in Title 40 of the Code of Federal Regulations, section 122.

Although a summary of the major revisions to the current SPCC rules is on pages 47044-50, and actual language for the Code is found on pages 47140-52, the detailed discussions of the requirements are on the following pages:

- SPCC Plan items 47093
- Security of valves, fencing, lighting 47109-10
- Secondary containment 47100-3, 16-17
- Integrity testing 47103-6, 11, 19
- Professional Engineer certification 47084-6

The following information is from the U.S. Environmental Protection Agency's web page, www.epa.gov.

Revised Spill Prevention, Control and Countermeasure Rule

Introduction

On July 17th, 2002, EPA issued a final rule amending the Oil Pollution Prevention regulation promulgated under the authority of the Federal Water Pollution Control Act (Clean Water Act). This rule addresses requirements for Spill Prevention, Control and Countermeasure Plans (SPCC Plans) and some provisions may also affect Facility Response Plans (FRPs). EPA proposed revisions to the SPCC rule on three occasions, in 1991, 1993, and 1997. The final SPCC rule addresses these revisions and became effective on August 16, 2002. EPA published a final rule on August 11, 2004 that extended the deadlines by which facilities must amend (or, for new facilities, prepare) and implement their SPCC Plans. The SPCC rule can be found in Title 40 of the Code of Federal Regulations (CFR), Part 112 (Oil Pollution Prevention)

Background of the Oil Pollution Prevention Regulation

The goal of the oil pollution prevention regulation in 40 CFR Part 112 is to prevent oil discharges from reaching navigable waters of the United States or adjoining shorelines. The rule was also written to ensure effective responses to oil discharges. The rule further specifies

that proactive, and not passive, measures be used to respond to oil discharges. The oil pollution regulation contains two major types of requirements: prevention requirements (SPCC rule) and Facility Response Plan (FRP) requirements. The prevention requirements in sections 112.1 through 112.7 were first promulgated in the 1973 SPCC regulation. Required under the rule is an SPCC Plan that contains measures to prevent and control oil spills, including those resulting from human operational error or equipment failures.

Reasons for Final Changes

There were many reasons for the final changes. First, the final changes stem from the need to clarify the language and organization of the rule. The changes comply with the Presidential order requiring that all new rules or rule amendments be drafted in plain language. The changes reduce the information collection burden on the regulated community. The SPCC changes will reduce the regulatory burden by approximately 40 percent. The changes will eliminate duplicate regulation, exempt certain small facilities, exempt most wastewater treatment facilities, and require consideration of industry standards in prevention plans. The final rule also allows an owner or operator to substitute a required measure for another providing equivalent environmental protection, with the exception of secondary containment requirements. The number of facilities now regulated by the SPCC rule has been reduced by about 55,000 as a result of the changes.

General Applicability

The SPCC rule applies to owners or operators of facilities that drill, produce, gather, store, use, process, refine, transfer, distribute, or consume oil and oil products. The changes to the rule clarify applicability to owners or operators that use oil. The changes also allow for tracking the scope of the rule to conform with the expanded jurisdiction of the amended CWA. The broadened range includes waters of the contiguous zone and waters connected with activity under the Outer Continental Shelf Lands Act or Deepwater Port Act, as well as waters affecting certain natural resources of the United States.

Summary of the New SPCC Rule

The effect of the final SPCC rule is expected to be positive. The revised rule reduces the number of facilities regulated and the overall regulatory burden.

Highlights of Final Rule

- Exempts completely buried storage tanks subject to all of the technical requirements of the UST regulations (40 CFR Parts 280 or 281);
- Exempts portions of certain facilities or any facility used exclusively for wastewater treatment;
- Establishes a de minimis container size of 55 gallons;
- Establishes an aboveground storage capacity threshold of greater than 1,320 gallons and removes the 660 gallon threshold;
- Revises the trigger for submitting information on spills at SPCC regulated facilities to EPA. Facilities are now required to submit information after having 2 discharges

(over 42 gallons) in any 12-month period or a single discharge of more than 1,000 gallons;
- Allows deviations from most rule provisions (with the exception of secondary containment requirements) when equivalent environmental protection is provided;
- Provides for a flexible plan format, but requires a cross-reference showing that all regulatory requirements are met; and
- Clarifies rule applicability to the storage and operational use of oil.

Facility Response Plan Considerations

The revisions to the SPCC rule may affect whether you need to prepare and maintain a Facility Response Plan (FRP) or how you calculate worst case discharge planning levels. In some cases, your facility may not meet the storage capacity thresholds for the substantial harm criteria. In other cases, you must have an FRP, but you may be able to revise the calculations for worst case discharge planning levels.

The definitions used in part 112.2 also clarify terms used in the FRP rule. According to the new rule, the regulation no longer applies to the following:

- Completely buried tanks that are subject to all Underground Storage Tank technical requirements in 40 CFR parts 280 and 281;
- Containers with a storage capacity of less than 55 gallons; and
- Portions of certain facilities or any facility used exclusively for wastewater treatment.

Appendix II—Farmer Questionnaire – All respondents and by region

Farmer Survey Summary--All		All Respondents				Western States			Mountain States			Northern Plains States			Southern Plains States		
				Number	Percent		Number	Percent		Number	Percent		Number	Percent		Number	Percent
1. Are you aware of the EPA's SPCC	YES			754	44.04%		48	37.80%		69	42.07%		239	50.96%		27	34.18%
	NO			958	55.96%		79	62.20%		95	57.93%		230	49.04%		52	65.82%
2. Your farm size	LESS THAN 200 ACRES			158	9.84%		28	23.14%		11	6.83%		29	6.36%		8	11.76%
	201 TO 500 ACRES			241	15.02%		10	8.26%		23	14.29%		32	7.02%		4	5.88%
	501 TO 1,000 ACRES			308	19.19%		21	17.36%		27	16.77%		60	13.16%		9	13.24%
	OVER 1,000 ACRES			898	55.95%		62	51.24%		100	62.11%		335	73.46%		47	69.12%
		Total Parcels	Average	Max	Min	Total Parcels	Average	Max	Total Parcels	Average	Max	Total Parcels	Average	Max	Total Parcels	Average	Max
3. Number of farm (parcels) totaling		10,185	7	100	0	597	6	30	785	6	25	2,946	8	80	520	10	40
LESS THAN 200 ACRES		219	1	20	1	82	3	12	11	1	3	17	1	3	13	2	6
201 TO 500 ACRES		762	3	80	1	30	3	6	66	3	10	78	2	15	5	1	3
501 TO 1,000 ACRES		1,570	5	43	1	92	4	10	112	4	10	275	5	35	28	3	7
OVER 1,000 ACRES		7,634	9	100	0	393	6	30	596	6	25	2,576	8	80	474	10	40
				Number	Percent		Number	Percent		Number	Percent		Number	Percent		Number	Percent
4. Do you have above ground storage	YES			1,535	88.12%		117	88.64%		158	95.18%		440	92.44%		62	75.61%
	NO			207	11.88%		15	11.36%		8	4.82%		36	7.56%		20	24.39%
5. Do you own the above ground storage	YES			1,427	92.12%		116	97.48%		149	94.30%		434	98.19%		58	90.63%
	NO			122	7.88%		3	2.52%		9	5.70%		8	1.81%		6	9.38%
				Gallons	Ave. Gal.		Gallons	Ave. Gal.		Gallons	Ave. Gal.		Gallons	Ave. Gal.		Gallons	Ave. Gal.
6. a. Above ground storage capacity (gallons and average)				8,490,902	5,550		978,434	8,435		1,088,615	6,890		2,372,575	5,404		321,685	5,188
				Number	% of responses		Number	% of responses		Number	% of responses		Number	% of responses		Number	% of responses
6. b. Your aggregated storage is:	LESS THAN 1,320 GALLONS			467	30.52%	832	20	17.24%	789	38	24.05%	851	120	27.33%	898	19	30.65%	843
	1,320 TO 5,000 GALLONS			646	42.22%	2,619	42	36.21%	2,791	66	41.77%	2,815	202	46.01%	2,630	22	35.48%	3,009
	5,001 TO 12,000 GALLONS			208	13.59%	8,735	25	21.55%	8,876	27	17.09%	8,179	53	12.07%	8,921	12	19.35%	8,638
	12,001 TO 29,999 GALLONS			177	11.57%	17,760	25	21.55%	16,874	21	13.29%	19,032	60	13.67%	17,292	9	14.52%	15,089
	30,000 OR MORE GALLONS			32	2.09%	45,319	4	3.45%	50,415	6	3.80%	41,667	4	0.91%	55,775	0	0.00%	0
				Number	Percent		Number	Percent		Number	Percent		Number	Percent		Number	Percent
7. Your storage capacity that is	STATIONARY			7,622,763	89.97%		830,380	86.08%		967,330	90.23%		2,189,260	92.27%		271,535	85.20%
	PORTABLE			849,509	10.03%		134,294	13.92%		104,685	9.77%		183,535	7.73%		47,150	14.80%
					Average			Average			Average			Average			Average
8. Your acres in crop production	ACRES			2,374,435	2,105		233,047	2,354		332,654	2,749		809,515	2,438		104,055	2,478
					Percent			Percent			Percent			Percent			Percent
9. a. Are your storage tanks in one location	YES			810	53.05%		45	38.79%		87	55.77%		267	60.82%		25	40.32%
	NO			717	46.95%		71	61.21%		69	44.23%		172	39.18%		37	59.68%
					Ave. Miles			Ave. Miles			Ave. Miles			Ave. Miles			Ave. Miles
9. b. Your other storage tank sites	NUMBER			4,174	4.1		261	4.6		188	6.8		2,085	3.5		136	7.3
				Number	Miles		Number	Miles		Number	Miles		Number	Miles		Number	Miles
10. Distance to your other storage tank sites	SITE 1			630	3.4		59	3.1		61	6.6		152	2.1		29	5.1
	SITE 2			346	4.1		41	4.8		25	7.9		80	3.8		18	6.4
	SITE 3			177	5.2		18	5.0		10	5.0		39	6.3		12	10.2
	SITE 4			101	7.1		13	10.6		0	0.0		21	7.5		8	12.5
				Number	Percent		Number	Percent		Number	Percent		Number	Percent		Number	Percent
11. Have you had a fuel spill in excess of 1,320 gallons	YES			6	0.39%		1	0.84%		2	1.26%		0	0.00%		0	0.00%
	NO			1,545	99.61%		118	99.16%		157	98.74%		442	100.00%		64	100.00%
12. a. Estimate of your cost to comply with SPCC	YES			38	2.46%		6	5.13%		4	2.55%		7	1.59%		0	0.00%
	NO			1,507	97.54%		111	94.87%		153	97.45%		434	98.41%		64	100.00%
				Average	Responses		Average	Responses		Average	Responses		Average	Responses		Average	Responses
12. b. Total cost of compliance	COST			12,831	32		13,700	5		9,767	3		20,486	7		n/a	0
12. c. Tank size affected for compliance	GALLONS			6,737	32		7,700	5		6,667	3		5,223	7		n/a	0

In this table, **Western** States include: Arizona, California, Oregon, and Washington; **Mountain**--Colorado, Idaho, Montana, Utah, and Wyoming; **Northern Plains**--Kansas, Nebraska, North Dakota and South Dakota; **Southern Plains**--Oklahoma, and Texas; **Heartland** States include: Illinois, Indiana, Iowa, Missouri, and Ohio; **Lake**--Michigan, Minnesota, and Wisconsin; **Southeast**--Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, and Tennessee; and **Eastern States** in this table include Connecticut, Delaware, Maine, Maryland, Massachusets, New Jersey, New Youk, Pennsylvania, North Carolina, South Carolina, Vermont, Virginia, and West Virginia.

Surveys were returned from 38 retired or non-active farmers--their responses are not in this table. Surveys were returned from 210 farmers with no above ground storage--only their response to knowledge of SPCC rule were presented in this table.

Appendix II—Farmer Questionnaire – All respondents and by region (continued)

Farmer Survey Summary--All		All Respondents			Heartland States			Lake States			Southeast States			Eastern States		
			Number	Percent		Number	Percent		Number	Percent		Number	Percent		Number	Percent
1. Are you aware of the EPA's SPCC	YES		754	44.04%		107	37.54%		144	47.84%		91	41.94%		28	40.58%
	NO		958	55.96%		178	62.46%		157	52.16%		126	58.06%		41	59.42%
2. Your farm size	LESS THAN 200 ACRES		158	9.84%		36	14.88%		16	5.42%		23	11.79%		7	10.61%
	201 TO 500 ACRES		241	15.02%		43	17.77%		71	24.07%		31	15.90%		27	40.91%
	501 TO 1,000 ACRES		308	19.19%		57	23.55%		84	28.47%		35	17.95%		15	22.73%
	OVER 1,000 ACRES		898	55.95%		106	43.80%		124	42.03%		106	54.36%		17	25.76%
		Total Parcels	Average	Max	Min	Total Parcels	Average	Max	Total Parcels	Average	Max	Total Parcels	Average	Max	Total Parcels	Average	Max
3. Number of farm (parcels) totaling		10,185	7	100	0	1,884	9	100	2,002	8	50	965	6	53	484	8	40
LESS THAN 200 ACRES		219	1	20	1	22	1	3	19	1	4	29	1	8	26	4	20
201 TO 500 ACRES		762	3	80	1	179	4	80	214	3	13	76	2	14	114	4	15
501 TO 1,000 ACRES		1,570	5	43	1	308	5	25	495	6	43	130	4	10	130	9	20
OVER 1,000 ACRES		7,634	9	100	0	1,375	13	100	1,274	10	50	730	7	53	214	13	40
				Number	Percent			Number	Percent			Number	Percent			Number	Percent
4. Do you have above ground storage	YES			1,535	88.12%			215	74.39%			293	96.38%			184	83.26%			65	91.55%
	NO			207	11.88%			74	25.61%			11	3.62%			37	16.74%			6	8.45%
5. Do you own the above ground storage	YES			1,427	92.12%			187	84.23%			279	95.22%			143	77.72%			60	90.91%
	NO			122	7.88%			35	15.77%			14	4.78%			41	22.28%			6	9.09%
				Gallons	Ave. Gal.			Gallons	Ave. Gal.			Gallons	Ave. Gal.			Gallons	Ave. Gal.			Gallons	Ave. Gal.
6. a. Above ground storage capacity (gallons and average)				8,490,902	5,550			697,708	3,260			893,030	3,058			1,941,300	10,666			177,555	2,690
			Number	% of responses			Number	% of responses			Number	% of responses			Number	% of responses			Number	% of responses	
6. b. Your aggregated storage is:	LESS THAN 1,320 GALLONS		467	30.52%	832		93	43.46%	841		85	29.11%	883		54	29.67%	692		38	57.58%	686
	1,320 TO 5,000 GALLONS		646	42.22%	2,619		88	41.12%	2,421		172	58.90%	2,509		33	18.13%	2,927		21	31.82%	2,386
	5,001 TO 12,000 GALLONS		208	13.59%	8,735		22	10.28%	8,866		24	8.22%	8,080		41	22.53%	9,107		4	6.06%	8,825
	12,001 TO 29,999 GALLONS		177	11.57%	17,760		10	4.67%	18,040		10	3.42%	16,260		39	21.43%	19,218		2	3.03%	18,038
	30,000 OR MORE GALLONS		32	2.09%	45,319		1	0.47%	31,000		1	0.34%	30,000		15	8.24%	45,630		1	1.52%	30,000
				Number	Percent			Number	Percent			Number	Percent			Number	Percent			Number	Percent
7. Your storage capacity that is	STATIONARY			7,622,763	89.97%			639,118	90.43%			826,230	92.52%			1,723,400	88.52%			157,510	88.71%
	PORTABLE			849,509	10.03%			67,600	9.57%			66,800	7.48%			223,400	11.48%			20,045	11.29%
					Average				Average				Average				Average				Average
8. Your acres in crop production	ACRES			2,374,435	2,105			244,051	1,649			288,306	1,281			320,337	2,409			36,970	1,369
					Percent				Percent				Percent				Percent				Percent
9. a. Are your storage tanks in one location	YES			810	53.05%			116	54.72%			150	51.37%			80	43.48%			40	61.54%
	NO			717	46.95%			96	45.28%			142	48.63%			104	56.52%			25	38.46%
					Ave. Miles				Ave. Miles				Ave. Miles				Ave. Miles				Ave. Miles
9. b. Your other storage tank sites	NUMBER			4,174	4.1			273	4.7			394	2.1			732	4.3			85	3.1
				Number	Miles			Number	Miles			Number	Miles			Number	Miles			Number	Miles
10. Distance to your other storage tank sites	SITE 1			630	3.4			86	4.1			134	2.4			86	3.8			22	2.8
	SITE 2			346	4.1			44	4.9			65	1.5			64	3.9			8	3.6
	SITE 3			177	5.2			18	6.2			24	2.7			50	4.4			5	3.3
	SITE 4			101	7.1			8	7.2			10	1.9			39	6.1			1	5.0
				Number	Percent			Number	Percent			Number	Percent			Number	Percent			Number	Percent
11. Have you had a fuel spill in excess of 1,320 gallons	YES			6	0.39%			0	0.00%			2	0.68%			1	0.54%			0	0.00%
	NO			1,545	99.61%			224	100.00%			290	99.32%			183	99.46%			66	100.00%
12. a. Estimate of your cost to comply with SPCC	YES			38	2.46%			6	2.70%			9	3.08%			5	2.70%			1	1.52%
	NO			1,507	97.54%			216	97.30%			283	96.92%			180	97.30%			65	98.48%
				Average	Responses			Average	Responses			Average	Responses			Average	Responses			Average	Responses
12. b. Total cost of compliance	COST			12,831	32			11,733	6			6,200	5			7,000	4			20,000	2
12. c. Tank size affected for compliance	GALLONS			6,737	32			8,667	6			1,860	5			9,250	4			11,115	2

In this table, **Western** States include: Arizona, California, Oregon, and Washington; **Mountain**--Colorado, Idaho, Montana, Utah, and Wyoming; **Northern Plains**--Kansas, Nebraska, North Dakota and South Dakota; **Southern Plains**--Oklahoma, and Texas; **Heartland** States include: Illinois, Indiana, Iowa, Missouri, and Ohio; **Lake**--Michigan, Minnesota, and Wisconsin; **Southeast**--Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, and Tennessee; and **Eastern States** in this table include Connecticut, Delaware, Maine, Maryland, Massachusets, New Jersey, New Youk, Pennsylvania, North Carolina, South Carolina, Vermont, Virginia, and West Virginia.

Surveys were returned from 38 retired or non-active farmers--their responses are not in this table. Surveys were returned from 210 farmers with no above ground storage--only their response to knowledge of SPCC rule were presented in this table.

Appendix III—Farmer Questionnaire -- National Estimates by Size of Farm

Farmer Survey Summary–All	All Respondents				Less than 200 acres			201 to 500 acres			501 to 1,000 acres			Over 1,000 acres		
			Number	Percent		Number	Percent		Number	Percent		Number	Percent		Number	Percent
1. Farmers aware of the EPA's SPCC	YES		567,736	44.08%		311,840	39.80%		128,001	43.06%		61,228	45.65%		66,667	45.15%
	NO		794,872	55.92%		471,757	60.20%		169,246	56.94%		72,890	54.35%		80,979	54.85%
2. Farm size	LESS THAN 200 ACRES		783,597	57.51%		783,597	100.00%		0	0.00%		0	0.00%		0	0.00%
	201 TO 500 ACRES		297,247	21.81%		0	0.00%		297,247	100.00%		0	0.00%		0	0.00%
	501 TO 1,000 ACRES		134,118	9.84%		0	0.00%		0	0.00%		134,118	100.00%		0	0.00%
	OVER 1,000 ACRES		147,646	10.84%		0	0.00%		0	0.00%		0	0.00%		147,646	100.00%
	Total Parcels	Average	Max	Min	Total Parcels	Average	Max	Total Parcels	Average	Max	Total Parcels	Average	Max	Total Parcels	Average	Max
3. Number of farm (parcels) totaling	4,297,062	7	100	0	1,543,449	3	20	842,435	3	15	677,344	5	43	1,233,835	9	100
LESS THAN 200 ACRES	1,543,449	1	20	1	1,543,449	2	20	0	0	0	0	0	0	0	0	0
201 TO 500 ACRES	842,435	3	15	1	0	0	0	842,435	3	15	0	0	0	0	0	0
501 TO 1,000 ACRES	677,344	5	43	1	0	0	0	0	0	0	677,344	5	43	0	0	0
OVER 1,000 ACRES	1,233,835	8	100	0	0	0	0	0	0	0	0	0	0	1,233,835	8.356711004	100
			Number	Percent		Number	Percent		Number	Percent		Number	Percent		Number	Percent
4. Above ground storage	YES		1,362,608	88.58%		783,597	100.00%		297,247	100.00%		134,118	100.00%		147,646	100.00%
	NO		0	11.42%		0	0.00%		0	0.00%		0	0.00%		0	0.00%
5. Own the above ground storage	YES		1,286,681	93.04%		759,609	96.94%		265,656	89.37%		122,539	91.37%		138,877	94.06%
	NO		75,927	6.96%		23,988	3.06%		31,591	10.63%		11,579	8.63%		8,769	5.94%
			Gallons	Ave. Gal.		Gallons	Ave. Gal.		Gallons	Ave. Gal.		Gallons	Ave. Gal.		Gallons	Ave. Gal.
6. a. Above ground storage capacity (gallons and average)			3,364,068,780	5,299		1,406,107,679	1,794		515,104,873	1,733		323,783,124	2,414		1,119,073,103	7,579
			Number	% of responses		Number	% of responses		Number	% of responses		Number	% of responses		Number	% of responses
6. b. Storage of:	LESS THAN 1,320 GALLONS		875,265	30.35%	843	595,860	76.04%	696	210,491	70.81%	773	50,839	37.91%	919	18,075	12.24%	974
	1,320 TO 5,000 GALLONS		329,643	43.28%	2,623	114,275	14.58%	2,284	72,534	24.40%	2,163	72,143	53.79%	2,316	70,691	47.88%	2,810
	5,001 TO 12,000 GALLONS		96,227	13.43%	8,730	48,975	6.25%	7,868	9,956	3.35%	7,629	9,199	6.86%	8,243	28,097	19.03%	8,871
	12,001 TO 29,999 GALLONS		55,934	11.23%	17,818	24,487	3.13%	14,100	2,844	0.96%	22,000	1,937	1.44%	17,650	26,666	18.06%	17,842
	30,000 OR MORE GALLONS		5,538	1.71%	43,065	0	0.00%	0	1,422	0.48%	40,000	0	0.00%	0	4,116	2.79%	43,198
			Number	Percent		Number	Percent		Number	Percent		Number	Percent		Number	Percent
7. Storage capacity that is	STATIONARY		2,959,139,643	89.66%		1,206,412,881	85.80%		457,770,889	88.87%		289,658,521	89.46%		1,005,297,352	89.83%
	PORTABLE		404,929,137	10.34%		199,694,798	14.20%		57,333,984	11.13%		34,124,604	10.54%		113,775,751	10.17%
				Average			Average			Average			Average			Average
8. Acres in crop production	ACRES		529,989,442	2,065		62,406,155	196		44,638,704	347		68,804,696	725		354,139,887	2,733
				Percent			Percent			Percent			Percent			Percent
9. a. Storage tanks in one location	YES		888,206	54.59%		525,091	67.01%		217,602	73.21%		74,564	55.60%		70,949	48.05%
	NO		474,402	45.41%		258,506	32.99%		79,645	26.79%		59,554	44.40%		76,697	51.95%
				Ave. Miles			Ave. Miles			Ave. Miles			Ave. Miles			Ave. Miles
9. b. Other storage tank sites	NUMBER		1,904,693	4.1		937,085	1.4		220,446	2.0		173,821	2.6		573,341	4.9
			Number	Miles		Number	Miles		Number	Miles		Number	Miles		Number	Miles
10. Distance to other storage tank sites	SITE 1		444,117	3.4		250,428	1.0		72,534	1.4		53,260	2.7		67,896	4.1
	SITE 2		229,825	4.1		145,410	1.0		17,067	0.5		27,114	2.2		40,234	5.0
	SITE 3		73,497	5.3		32,313	4.6		7,111	0.8		11,620	2.9		22,452	6.0
	SITE 4		51,689	7.0		32,313	2.9		1,422	60.0		4,842	3.2		13,112	7.0
			Number	Percent		Number	Percent		Number	Percent		Number	Percent		Number	Percent
11. Fuel spill in excess of 1,320 gallons	YES		1,502	0.36%		0	0.00%		0	0.00%		965	0.72%		537	0.36%
	NO		1,361,106	99.64%		783,597	100.00%		297,247	100.00%		133,153	99.28%		147,109	99.64%
12. a. Estimate of cost to comply with SPCC	YES		26,874	2.56%		16,157	2.06%		2,872	0.97%		3,377	2.52%		4,469	3.03%
	NO		1,335,734	97.44%		767,440	97.94%		294,375	99.03%		130,741	97.48%		143,177	96.97%
			Average	Total Cost		Average	Total Cost		Average	Total Cost		Average	Total Cost		Average	Total Cost
12. b. Cost of compliance	COST		32,606	4,490,863,697		7,250	1,794,845,253		4,833	689,774,227		6,375	628,808,450		14,148	1,377,435,767
12. c. Tank size affected for compliance	GALLONS		12,416			1,250			1,267			1,683			8,217	

Expanded data in this table based on the proportion of farm sizes to 1,362,608 total farms.

Appendix III—Farmer Questionnaire

Please return this survey by February 24, 2005 to:
USDA
PO Box 16097
Arlington, VA 22215

United States Department of Agriculture
Rural Development

FARMER FUEL/OIL SECURITY SURVEY

While you are not required to respond, your help is needed to provide data for a study on farm fuel/oil storage. All tabulations and analysis will be done by USDA Rural Development and individual responses will be treated confidentially.

State where farm(s) located _____

1. Are you aware of the Environmental Protection Agency's 2002 **Spill Prevention, Control, and Countermeasures (SPCC)** regulations and the need to have an **SPCC** plan, secondary containment for large tanks (like berms), certified professional engineer approval, and periodic tank integrity testing, etc.?
   YES☐ NO☐

2. How many acres do you farm (include owned and rented or leased, contiguous or separated acreage, etc.)

PLEASE RESPOND BY CHECKING THE APPROPRIATE ACREAGE:

Less than 200 acres	201 to 500 acres	501 to 1,000 acres	Over 1,000 acres

3. If your farm has separate parcels, how many total land parcels make up the farm? ..... **NUMBER** ☐

4. Do you have above ground storage tanks for fuel/oil on your farm (***fuel/oil includes liquid fuels, vegetable oil, waste oils, and animal fats***)? YES☐ NO☐

5. Do you (or the owner of rented or leased acreage) own all or most of the fuel/oil storage tanks?
   YES☐ NO☐

6. What is the capacity in gallons of all your fuel/oil storage tanks (please include all storage tanks, 55 gallon drums, and all other larger storage tanks)? ..... **GALLONS** ☐

7. How many gallons of storage in Question 6 are in stationary tanks and how many gallons are in portable tanks? **STATIONARY–GALLONS** ☐ **PORTABLE –GALLONS** ☐

8. If the cumulative above ground tank capacity exceeds 1,320 gallons, how many acres in the farms that you own, rent, or lease are in crop production use? ..... **ACRES IN CROP PRODUCTION** ☐

9. Are all of your above ground fuel/oil storage tanks congregated in one location?
   YES☐ NO☐ If NO, how many tank sites exist? **NUMBER OF TANK SITES** ☐
   If NO, please continue to next question, If YES, please go to Question 11.

10. If you have above ground fuel/oil storage tanks in separate locations from the main fueling site, how far away are they?

PLEASE RESPOND BY LISTING THE DISTANCE TO THE OUTSIDE TANK SITES FROM THE MAIN SITE (circle the correct measure of distance–miles or yards):

Outside tank site #1	Outside tank site #2	Outside tank site #3	Outside tank site #4
Miles or yards:	Miles or yards:	Miles or yards:	Miles or yards:

11. Have you ever had a fuel/oil spill on a farm that you own, rent, or lease in excess of 1,320 gallons?
    YES☐ NO☐

12. Have you had a professional engineer provide you cost estimates to comply with 2002 EPA final rule?
    YES☐ NO☐ If YES, what was the estimate? **ESTIMATED COST** ☐
    Tankage size affected?..... **SIZE** ☐

Appendix IV—Farmer Cooperative Questionnaire

Please return this survey by February 24, 2005 to:
USDA
PO Box 16097
Arlington, VA 22215

United States Department of Agriculture
Rural Development

FARMER COOPERATIVE FUEL/OIL SECURITY SURVEY

While you are not required to respond, your help is needed to provide data for a study on farmer cooperative fuel/oil storage. All tabulations and analysis will be done by USDA Rural Development and individual responses will be treated confidentially.

State where cooperative located _____

1. Is your cooperative aware of the Environmental Protection Agency's 2002 **Spill Prevention, Control, and Countermeasures (SPCC)** regulations and the need to have an **SPCC** plan, secondary containment for large tanks (like berms), periodic tank integrity testing, and professional engineer certification of the plan and tanks, etc.?
   YES ☐ NO ☐

2. How does your cooperative deliver fuel/oil to farms (***fuel/oil includes liquid fuels, vegetable oil and animal fats***)?

PLEASE RESPOND BY CHECKING THE APPROPRIATE FUEL/OIL DELIVERY SYSTEM:

Less than 2,000 gallon trucks	2,001 to 5,000 gallon tank trucks	5,000+ gallon tank trucks	Other (please specify)

3. Are there above ground storage tanks for fuel/oil at your cooperative (please include all storage tanks, 55 gallon drums, waste oil storage, and all other larger storage tanks)?
   YES ☐ NO ☐ If YES, what is the total storage capacity?... **GALLONS** ☐

4. Does your cooperative lease (or rent) fuel/oil storage tanks to farmers/producers?
   YES ☐ NO ☐ If YES, what percent of the farms that you make deliveries to have tanks leased from your cooperative? **PERCENT** ☐

5. How many farms does your cooperative deliver fuel/oil to? ..... **NUMBER OF FARMS** ☐

6. How many farms that your cooperative delivers fuel/oil to have above ground fuel/oil storage tank capacity totaling in excess of 1,320 gallons? ..... **NUMBER OF FARMS** ☐

7. For the farms identified in Question 6 that have storage for fuel/oil in excess of 1,320 gallons congregated together, how many have berms to contain fuel/oil spills? ..... **NUMBER OF FARMS** ☐

8. How many farms does your cooperative deliver fuel/oil to that have two or more separate storage tank sites?..... **NUMBER OF FARMS** ☐

9. For Question 8, how far apart are the separate fuel/oil storage tanks on average (please provide a best estimate of an average distance and note either yards or miles)?..... **DISTANCE (yards or miles)** ☐

10. Has your cooperative ever asked to see a farmer/producer Spill Prevention, Control, and Countermeasures plan? YES ☐ NO ☐ If YES, how many this year? ☐ Past five years? ☐

11. How many fuel/oil delivery trucks with more than 660 gallon capacity does your cooperative use to make deliveries? ..... **NUMBER OF TRUCKS** ☐

12. How many of your fuel/oil delivery trucks are parked when not in use within an area either bermed or having a catch basin to store or contain 660 gallons or more? ..... **NUMBER OF TRUCKS** ☐

small airports.

So I want to make sure that the record does reflect that these reforms strike the balance between removing unnecessary or duplicative requirements, but at the same time, making sure that there are environmental protections guaranteed.

Senator Murkowski. How much flexibility will actually be worked into that, though? Because, say you have a company, a small business that has been in operation in excess of 10 years and did have a spill, and they handled their spill exactly as anyone would want and had cleaned it up 100 percent. Do they get any allowance for that, or is it, sorry, your 10 years has to be completely untainted?

Mr. Sullivan. Senator, the self-certification reforms really are about encouraging small facilities to come into the regulatory system, establish a dialogue with EPA and the regional and district offices, even in Alaska. So if you are in the scenario that you laid out, you have a small facility that obviously has a history and a relationship with the local office, there are enough flexibilities in the enforcement regime that EPA manages to make sure that a small facility that is a good actor is treated as such...

Senator Inhofe...

Mr. Cummings, in a letter of the OIPA, that is the Oklahoma Independent Petroleum Association, submitted during the comment period on EPA's notice of data availability, it suggested a threshold or recommended a threshold of 42,000 gallons. Without objection, that study or that portion of the study would be made a part of the record.

[The referenced material follows:]

Senator Inhofe. Can you explain to the Committee why the 10,000 gallon threshold proposed by the EPA doesn't work for small producers?

Mr. Cummings. Yes. The majority of facilities, small marginal well facilities, will have two tanks, typically 210 barrel or 300 barrel tanks. Typically, you would produce into one tank until you had a volume of saleable quantity. And then, you would prepare that for sale and the produce into the other tank while you were waiting for the truck to actually come and actually pick up the tank.

The 42,000 gallon volume was derived from a thousand barrels which would cover the typical small marginal well tank volumes that are on location. Now that wouldn't typically be a single tank of that size, but because most locations have more than one tank, we came up with that level to try to take care of both tankages, although a single tank would not be near that size.